

rifles, and I was obliged to take out my little army twice against villagers; but luckily no blood was shed, as the villagers, seeing the rifles coming, immediately restored my stolen property. I did not collect to speak of here, as I was ill with fever and was having a very anxious time. I could get no guide to take me across the great waterless desert of the Marehan, and was obliged to load up the water-vessels at Doosa Moreb and start without one. I believe I was the first white man to visit the heart of the Marehan and Haweea Countries, and was right glad to shake off the dust from my feet on quitting those inhospitable tribes. How I lost my way crossing the Marehan Desert, ran short of water, and all but died of thirst, I have already described in the pages of the 'Wide World Magazine.' We reached Galadi in the Mijertain Country, and found water in the very nick of time, when I was almost at the last gasp. Here I became delirious, and knew nothing that was going on around me for hours. After leaving Galadi I became so ill and weak with fever that I did no further collecting, but was practically carried by my pony the whole way across the waterless Haud again to the Gulis Range, where I remained a few days to rest, and at length reached Berbera more dead than alive.

A full account of my two expeditions, together with a complete list of every mammal and bird known to inhabit the country, will be found in my book 'Somaliland,' published in 1899 by Messrs. F. E. Robinson & Co., London.

The specimens mentioned and described in the following pages are in the Hope Collection, University Museum, Oxford, with the exception of those which are expressly stated to be in the British Museum.

2. DIPTERA.

By E. E. AUSTEN, Zoological Department, British Museum.

Mr. Peel's collection of Diptera was not extensive, amounting only to four specimens belonging to three species, one of which, however, is apparently new.

Fam. TABANIDÆ.

Subfam. PANGONINÆ.

PANGONIA Latr.

PANGONIA (*sens. strict.*) Rond.

PANGONIA TRICOLOR, sp. n. (Plate I. fig. 8.)

♀. Length 17 millim.; length of wing 15·5 millim.; length of proboscis 4 millim.

Shining black; first and second segments of abdomen (except a somewhat triangular area in the middle of the second segment, which, however, like the first and remainder of the second segment, is clothed with appressed silvery-white pile) white above; sixth and seventh segments and the narrow posterior margin of the fifth ochraceous, and

clothed with golden ochraceous pile; wings dark brown; alula, greater portion of the area behind the sixth longitudinal vein, and sometimes a narrow margin extending from the tip of the second vein to the apex of the anal cell, hyaline.

Head with an area surrounding the bases of the antennæ, extending from eye to eye, and including the lowest third of the front and an equal space below the antennæ, covered with white dust; face on each side below the antenna sparsely clothed with fine silvery hairs; cheeks dark brown; occiput covered with greyish dust, and base of head below thickly clothed with short white hairs; antennæ uniformly black, a distinct shoulder at the base of the third joint above. Thorax with a few short golden hairs in front of scutellum; pectus clothed with silvery-white pile, which extends on to the pleuræ above the front coxæ, and also in a stripe running up to the base of the wing, where the stripe ends in a fork; a narrow stripe of silvery-white pile extends from the base of the scutellum to the wing on each side. Abdomen: the white posterior margin of the second segment is narrowed in the middle above (thus leaving the black triangular area mentioned in the diagnosis), and continued on the ventral side as a narrow transverse band. Legs: coxæ greyish pollinose, and clothed with silvery-white pile; tibiæ with a slight reddish tinge. Wings with a fleck of silvery-white pile on the base of the first vein; halteres tawny.

Two specimens (both ♀). Type in British Museum; co-type in Hope Museum, Oxford. From Bun Feroli, north of Shebeyli River, West Somaliland; June 10–20, 1895: "biting men and animals."

In the present species the eyes are bare and the first posterior cell of the wing is closed; it is therefore a true *Pangonia* in Rondani's restricted sense.

Pangonia tricolor is closely allied to *P. bricchettii* Bezzi (Ann. Mus. Civ. Genov. xxxii. (1892), p. 181), also from Somaliland (Milmil). *P. tricolor* differs from *P. bricchettii* (which apparently is a somewhat smaller species) *inter alia* in only the first two, and not the first four¹, abdominal segments being marked with white, thus leaving between the white of the base and the ferruginous tip a broad shining black space, which is absent in Bezzi's species.

It may be noted that in the marking of the base of the abdomen of *Pangonia tricolor* there is a certain similarity to *Tabanus leucaspis*, v. d. Wulp (Notes Leyden Mus. vii. (1885), p. 74, pl. v. fig. 3), from the Gold Coast.

The collection of the British Museum contains two specimens of *Pangonia tricolor*, obtained by Capt. Swayne in Somaliland, from

¹ There is a discrepancy between Bezzi's diagnosis and his detailed description; in the former he writes (*op. cit.* p. 181) "*abdomine fasciis tribus transversis ex tomento albido ad marginem posticum segmentorum,*" while in the latter he describes (p. 182) the fourth segment also as "*a orlatura posteriore bianca,*" with the dorsum "*Fornito di peli bianchi*"; he describes the 5th, 6th, and 7th segments as "*a peli ferruginosi.*"

nearly the same region as that in which Mr. Peel's specimens were found. Capt. Swayne also captured a single specimen of another species of *Pangonia* (too much damaged for determination), and three examples of a small Tabanid, somewhat resembling a *Hæmatopota* in form, but with clear wings; as the latter specimens are headless, it is impossible to determine them more precisely.

The following extract from a letter from Capt. Swayne, sent along with the flies to Dr. P. L. Sclater, is interesting as showing the apparent effect of the bites of these flies upon domestic animals. It is possible, however, that the real offender in these cases is either *Glossina longipennis*, Corti (the Somaliland Tsetse-fly), or else a species of *Stomoxys*, which abounds all over E. Africa. The latter species was found by Dr. J. W. Gregory to kill his camels on the Tana River, and was discovered by Capt. A. G. Haslam, A.V.D., to carry the *Trypanosoma* of Tsetse-fly disease. Since *Stomoxys* is a fly of small size, while *Glossina longipennis* is in shape not unlike a *Hæmatopota*, the true culprits may escape notice, the effects of their bites being attributed to the Tabanidæ. In the extract from Capt. Swayne's letter the *Pangonia* are called "Doog," and the small Tabanid "Balaad." Capt. Swayne writes as follows:—

"I send you three specimens of 'Doog' (a large fly) and three specimens of 'Balaad' (a small fly). I was very much pestered by 'Doog' on my way through Ojaden to the Webbe Shabeyli in Somaliland. They swarmed on my camels, constantly drawing blood. The other fly, 'Balaad,' which looks not unlike the common house-fly, is far the worst fly on the Webbe; a valuable camel, on which I caught three or four, two months ago, is now dying, and the Somalis say that this is due to the bites of 'Balaad.' If there are many of them they kill horses and camels, and the Somalis will not have their live-stock grazing where 'Doog' and 'Balaad' are found."

Fam. ASILIDÆ.

Subfam. LAPHRINÆ.

LAMYRA Loew.

LAMYRA VORAX Loew.

Lamyra vorax, Loew, Öfvers. af K. Vet.-Akad. Förhandl. 1857, 355. 47; id. Dipt.-Fauna Südafrika's, 114 [1860].

A single ♀, West Somaliland, between April 16 and Aug. 7, 1895.

I refer Mr. Peel's specimen to this species with some hesitation. Its length is 15 German lines, instead of 11 or 12; the pollinose spots on the second and third abdominal segments are practically invisible; and there are differences in the length and coloration of the hair on the ventral surface of the abdomen. The specimen, however, is in poor condition, and even should it eventually prove to belong to a new species, it is too much damaged to be selected as a type.

Fam. MUSCIDÆ.

GLOSSINA Wied.

GLOSSINA LONGIPENNIS Corti.

Glossina longipennis, Corti, Ann. Mus. Civ. Genov. xxxv. (1895) p. 138.

A single ♀, West Somaliland, June 23–25, 1895.

Mr. Peel's note on this specimen says:—"Fly-belt sharply defined from Biernuddo to Boholo Deno."

This species, which is the Somaliland Tsetse-fly, was described from a male specimen obtained by Capt. Vittorio Bottego in June, 1893, on the Uelmal River, in the Boran Galla country. The British Museum possesses four examples from Somaliland (the exact locality not being known), collected and presented by Mr. Th. Greenfield.

Corti states (*loc. cit.* p. 139) that *G. longipennis* is "related to *G. tachinoïdes*, Westw., but differs in having the antennæ yellowish and not brown." It is, however, much more closely allied to *G. tabaniformis*, Westw., in which the length and size of the wings are even greater.

3. LEPIDOPTERA RHOPALOCERA.

By F. A. DIXEY, M.A., M.D., Fellow of Wadham College, Oxford.

DANAINÆ.

LIMNAS CHRYSIPPUS Linn.

Twenty-two specimens: 16 ♂, 6 ♀. It is remarkable that not one of these is of the type form, 14 ♂ and 6 ♀ being var. *klugii*, in which the black and white of the apical portion of the fore wing are wanting; while the remaining 2 ♂ are var. *dorippus*, which resembles var. *klugii* in every respect except that both surfaces of the hind wing are more or less suffused with white as in the *alcippoides* form of the type. The dates and places of capture were as follows: Hargaisa (North-west Somaliland), April 25–28, 1895, *klugii*, 4 ♂, 1 ♀, *dorippus*, 1 ♂; Arigumeret, Farfanyer District (Central Somaliland), June 20, 1897, in thick bush, *klugii*, 4 ♂, *dorippus*, 1 ♂; Haud, Odewein (North Central Somaliland), June 23, 1897, in dry river-bed with thickly wooded banks, *klugii*, 1 ♂, 1 ♀; Haud District, Eyk (North Central Somaliland), July 2, 1897, *klugii*, 1 ♂, 1 ♀; Habr Heshi, Marehan Country (East Central Somaliland), Aug. 26, 1897, in thick bush, *klugii*, 4 ♂, 3 ♀.

The ground-colour of the present specimens varies, the majority being of the usual light reddish amber seen in Oriental specimens of the type. Two or three of the *klugii* are of a pale dull fawn, and one or two approach the duller and darker ground-tint of the African *chrysippus*. These differences are not sexual, and there are transitional forms. The marginal white spots of the hind wing